

CLAIM LISTING:

The following claim listing replaces all prior claim versions and claim listings in the application:

1. (Previously Presented) Apparatus for helping to protect an occupant of a vehicle that has a side structure and a roof, said apparatus comprising:

an inflatable vehicle occupant protection device that is inflatable in a direction away from the vehicle roof into a position between the side structure of the vehicle and a vehicle occupant, said inflatable vehicle occupant protection device comprising overlying panels that are interconnected along at least a portion of a perimeter of said inflatable vehicle occupant protection device to define an inflatable volume of said inflatable vehicle occupant protection device, said inflatable vehicle occupant protection device when inflated having a thickness measured between overlying points on said overlying panels at a location where the head of an occupant may contact said inflatable vehicle occupant protection device; and

an inflation fluid source actuatable to provide a volume of inflation fluid to said inflatable volume sufficient to inflate said inflatable vehicle occupant protection device, said inflation fluid source comprising means for inflating said inflatable vehicle occupant protection device to a pressure that is a defined mathematical function of said thickness of said inflatable vehicle occupant protection

device when inflated, said pressure being sufficient to prevent the head of the occupant from striking the side structure through said thickness of said inflatable vehicle occupant protection device.

2. (Currently Amended) Apparatus for helping to protect an occupant of a vehicle that has a side structure and a roof, said apparatus comprising:

an inflatable vehicle occupant protection device that is inflatable in a direction away from the vehicle roof into a position between the side structure of the vehicle and a vehicle occupant, said inflatable vehicle occupant protection device comprising overlying panels that are interconnected along at least a portion of a perimeter of said inflatable vehicle occupant protection device to define an inflatable volume of said inflatable vehicle occupant protection device, said inflatable vehicle occupant protection device when inflated having a thickness measured between overlying points on said overlying panels at a location where the head of an occupant may contact said inflatable vehicle occupant protection device; and

an inflation fluid source that provides inflation fluid to said inflatable volume for inflating said inflatable vehicle occupant protection device, said inflation fluid in said inflatable vehicle occupant protection device being at a pressure when said inflatable vehicle occupant protection device is inflated, said pressure having a functional relationship with said thickness of said inflatable vehicle

occupant protection device, said functional relationship being approximated by the equation according to:

$$P = (4.2 \times 10^7) T^{-2.8};$$

wherein P represents said pressure expressed in kilopascals and T represents said thickness expressed in millimeters.

3. (Previously Presented) Apparatus as defined in claim 1, wherein said thickness is 120-150 millimeters.

Claim 4 (Cancelled).

5. (Previously Presented) Apparatus as defined in claim 2, wherein said thickness is 120-150 millimeters.

Claim 6 (Cancelled).

7. (Original) Apparatus as defined in claim 2, wherein said inflatable volume is between 20-45 liters.

8. (Currently Amended) Apparatus for helping to protect an occupant of a vehicle that has a side structure and a roof, said apparatus comprising:

an inflatable vehicle occupant protection device that is inflatable in a direction away from the vehicle roof into a position between the side structure of the vehicle and a vehicle occupant, said inflatable vehicle occupant protection device comprising overlying panels that are

interconnected along at least a portion of a perimeter of said inflatable vehicle occupant protection device to define an inflatable volume of said inflatable vehicle occupant protection device, said inflatable vehicle occupant protection device when inflated having a thickness measured between overlying points on said overlying panels at a location where the head of an occupant may contact said inflatable vehicle occupant protection device; and

an inflation fluid source that provides inflation fluid to said inflatable volume for inflating said inflatable vehicle occupant protection device, said inflation fluid in said inflatable vehicle occupant protection device being at a pressure when said inflatable vehicle occupant protection device is inflated, said pressure having a functional relationship with said thickness of said inflatable vehicle occupant protection device, said functional relationship being approximated by the equation according to:

$$P = (3.0 \times 10^5) T^{-1.92};$$

wherein P represents said pressure expressed in kilopascals and T represents said thickness expressed in millimeters.

Claims 9 and 10 (Cancelled).

11. (Previously Presented) Apparatus as defined in claim 8, wherein said thickness is 120-150 millimeters.

Claim 12 (Cancelled).

13. (Original) Apparatus as defined in claim 8, wherein said inflatable volume is between 20-45 liters.

14. (Original) Apparatus as defined in claim 1, wherein said inflatable vehicle occupant protection device is an inflatable curtain having a stored position extending along the side structure adjacent to the vehicle roof.

15. (Previously Presented) Apparatus as defined in claim 14, wherein said overlying panels are interconnected to define inflatable areas of said inflatable curtain, said thickness being measured between said overlying panels within said inflatable areas.

16. (Original) Apparatus as defined in claim 14, wherein said inflatable curtain when inflated extends along the side structure of the vehicle between an A pillar and a C pillar of the vehicle.

17. (Original) Apparatus as defined in claim 14, wherein said inflatable curtain, when inflated, overlies at least a portion of an A pillar, a B pillar and a C pillar of the vehicle.

18. (Original) Apparatus as defined in claim 14, further including a fill tube having a portion located in said inflatable curtain, said inflation fluid source being in fluid

communication with said fill tube, said inflation fluid source, when actuated, providing inflation fluid to said fill tube, said fill tube directing said inflation fluid into said inflatable curtain to inflate said inflatable curtain.

19. (Original) Apparatus as defined in claim 1, further comprising a sensor for sensing a vehicle condition for which deployment of said inflatable vehicle occupant protection device is desired, said sensor actuating said inflation fluid source to provide inflation fluid to inflate said inflatable vehicle occupant protection device.

20. (Original) Apparatus as defined in claim 1, wherein said inflation fluid source comprises an inflator which is actuatable to inflate said inflatable vehicle occupant protection device.

21. (Previously Presented) Apparatus as recited in claim 2, wherein said pressure is sufficient to prevent an occupant's head having a mass of 6.08 kilograms travelling at a velocity of eighteen miles per hour from striking the side structure through said thickness of said inflatable vehicle occupant protection device.

22. (Previously Presented) Apparatus as recited in claim 8, wherein said pressure is sufficient to prevent an occupant's head having a mass of 6.08 kilograms travelling at a velocity of twelve miles per hour from striking the side

structure through said thickness of said inflatable vehicle occupant protection device.

23. (Previously Presented) Apparatus as defined in claim 1, wherein said defined mathematical function also includes at least one value based on a velocity at which an occupant's head having a given mass may impact said inflatable vehicle occupant protection device.

24. (Previously Presented) Apparatus as defined in claim 1, wherein said pressure that is a defined mathematical function is sufficient prevent an occupant's head having a given mass and travelling at a given velocity from striking the side structure through said thickness of said inflatable vehicle occupant protection device.

25. (New) Apparatus for helping to protect an occupant of a vehicle that has a side structure and a roof, said apparatus comprising:

an inflatable vehicle occupant protection device that is inflatable in a direction away from the vehicle roof into a position between the side structure of the vehicle and a vehicle occupant, said inflatable vehicle occupant protection device comprising overlying panels that are interconnected along at least a portion of a perimeter of said inflatable vehicle occupant protection device to define an inflatable volume of said inflatable vehicle occupant protection device, said inflatable vehicle occupant protection

device when inflated having a thickness measured between overlying points on said overlying panels at a location where the head of an occupant may contact said inflatable vehicle occupant protection device; and

an inflation fluid source actuatable to provide a volume of inflation fluid to said inflatable volume sufficient to inflate said inflatable vehicle occupant protection device, said inflation fluid source comprising means for inflating said inflatable vehicle occupant protection device to a pressure having a magnitude defined by a mathematical equation that expresses said pressure as an exponential function of said thickness of said inflatable vehicle occupant protection device when inflated, said pressure being at least sufficient to prevent the head of the occupant from striking the side structure through said thickness of said inflatable vehicle occupant protection device.